A NEW GENUS OF HALIPLIDAE (COLEOPTERA) FROM CALIFORNIA

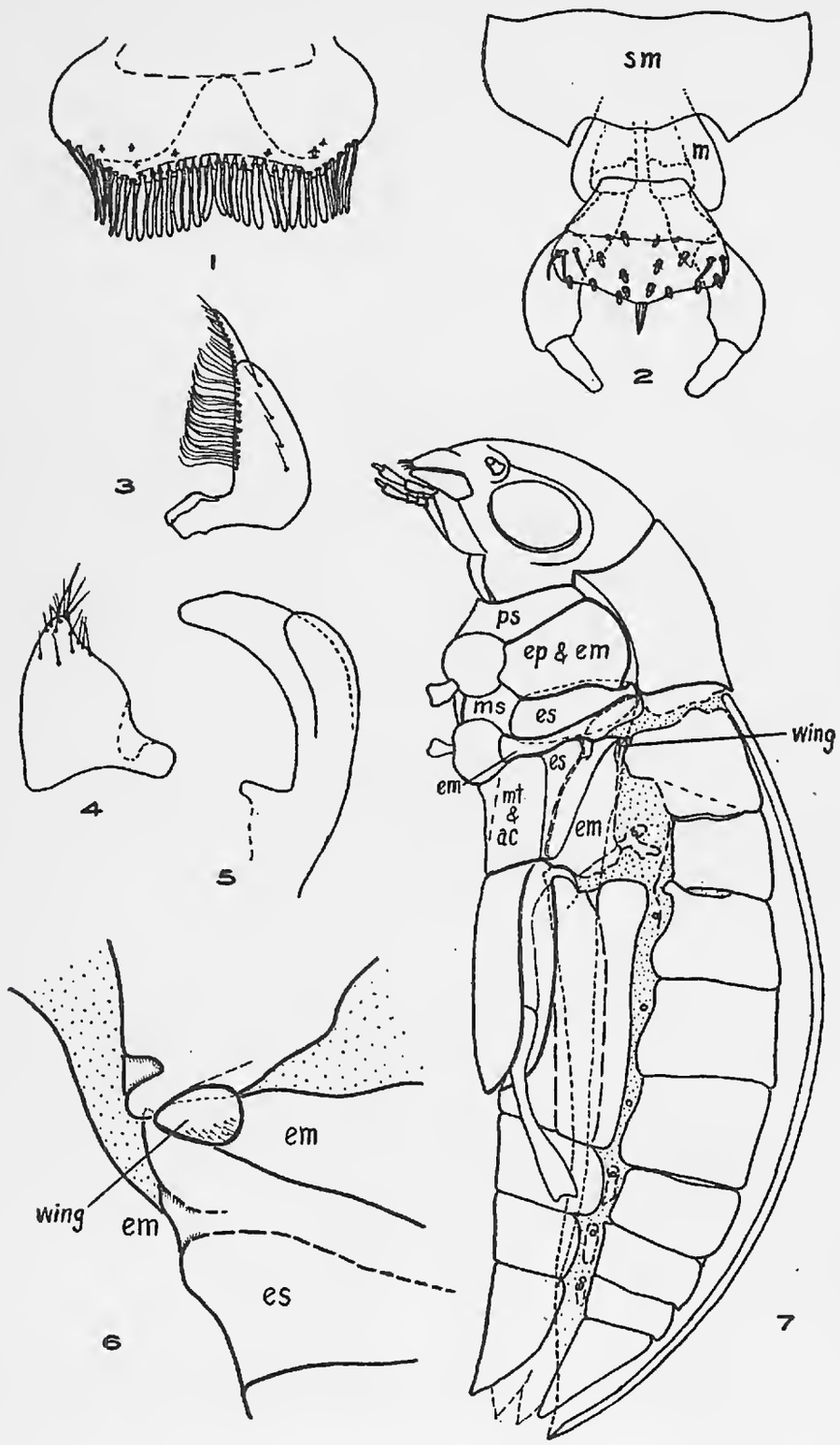
BY HARRY P. CHANDLER
University of California, Berkeley

Apteraliplus Chandler, new genus

Size small, 1.8-2.4 mm.; spindle-shaped, widest point at posterior two-fifths; hump-backed when viewed from side; highest point behind middle. *Head* with eyes small, prominent; antennae eleven segmented, two basal segments as long as wide; terminal segment of palpi much smaller than penultimate. *Pronotum* with basal portion transversely flattened; with a short, broad, punctured, basal depression on each side; sides roundly and evenly convergent; anterior margin transversely arcuate. *Elytra* conjointly depressed at base; not truncate at apex; each with ten regular rows of small weakly impressed, unpigmented punctures; with a row of very small setigerous punctures between the eighth and ninth striae; epipleura weakly differentiated, ending just before the last ventral segment of the abdomen. *Metathoracic wings* greatly reduced, scale like. *Prosternum* shallowly abruptly declivous along the median portion of the anterior margin; arcuately rounded from side to side; posterior process gently raised above the base, constricted between the coxae, convex, roundly truncate at apex, sides not margined. Suture between the episternum and epimeron obliterated. Episternum of the metathorax separating the metasternum from the epipleura. Anterior process of the metasternum elevated above base. Suture between metasternum and antecoxal piece obliterated. Hind coxae conjointly semi-circular, faintly punctured. *Abdomen* with three anterior sternites united, with sutures obliterated; three posterior sternites exposed; last sternite large, triangular; tip very strongly and closely punctured, margined with short setae. Legs with swimming hairs on outer posterior edge of the tarsi and the front and middle tibia; a setigerous striole on the inner distal half of the posterior tibia.

This genus is proposed for the single species described as *Brychius parvulus* Roberts[1], from a single specimen taken by Baker from San Mateo County, California. The species was not again recognized until two specimens were collected by T. Aarons from Lake Lagunitas on the Stanford University Campus, Palo Alto, California, which were determined by Dr. Van Dyke. Shortly afterward the author discovered one unidentified speci-

[1] Roberts, C. H. 1913. Critical notes on the species of Haliplidae of America North of Mexico with descriptions of new species. Jour. N. Y. Ent. Soc., 21:94-95.



APTERALIPLUS PARVULUS ROBERTS (HALIPLIDAE)

Fig. 1. Clypeus; Fig. 2. Labium; Fig. 3. Left paramere; Fig. 4. Right paramere; Fig. 5. Aedoeagus; Fig. 6. Wing region of female; Fig. 7. Side view of male with elytra removed (Note the greatly reduced wing). Abbreviations: *ac.*—antecoxal piece; *em.*—epimeron; *ep.*—episternum; *m.*—mentum; *ms.*—mesosternum; *mt.*—metasternum; *ps.*—prosternum; *sm.*—submentum.

men in the University of California collection, labeled Palo Alto, V-20-22, S. E. Flanders. On January 2, 1942, the author visited the locality in which Aarons had collected and secured a good series upon which this study is based. They were found abundantly in small pools. Lake Lagunitas is a reservoir which is dry during the late summer and fall months. With the coming of the winter rains this reservoir rapidly fills. This species was found in small shallow pools at the shallow end of the reservoir. These pools were located in a boggy region caused by the recent rains and seepage from a canal above, and had not yet connected in any way with the reservoir. It was estimated that the reservoir would reach and cover this section about two weeks after the collections were made. As three of the four known records are from Palo Alto, and as the border of San Mateo County (the type locality) is less than one mile distant from the above-mentioned reservoir, it appears that this species may have an extremely limited distribution. Its lack of wings makes impossible the usual method of Haliplid dispersal. The drainage system in which it is located is very short, extending a distance of less than 15 miles from the Coast range eastward to the south end of San Francisco Bay. As the swimming hairs of the legs are well developed and the adults are observed to swim quite well for a Haliplid, it appears that the species is adapted to still water and any dispersal in the drainage basin would be only in a down stream direction. There is a possibility that the eggs might be dispersed in mud on the feet of birds as is thought to be the case in various other fresh water animals. This would be less probable if the dry season is passed in the pupal stage which is most likely the case.

Roberts placed this species in the genus *Brychius* without giving any specific reasons. The shape of the pronotum has been used extensively to define the genus *Brychius* in keys and in this respect the flattened base of the pronotum and the weakly convergent sides do suggest *Brychius*. However, other characters show it to be much more closely related to some of the other Haliplids. Its nearest affinities, in so far as the author's knowledge of the family goes, is with the subgenus *Liaphlus* (genus *Haliplus*) from which it is amply separated for generic ranking. Carr[2] in his paper on North American species of *Brychius*,

[2] Carr, F. S. New species of the genus *Brychius*. Can. Ent., 60:26.

quotes Mr. Barber who studied the type as follows, "Its convex pronotum, with sides strongly arcuate and convergent, and with the basal impressions at lateral fourth deep but short without trace of the sinuate carina which in *elevatus* and *hornii* extends from the base at lateral sixth to apical fourth, together with the gibbous apically acuminate elytra and the much narrower and anteriorly not prominent prosternum, seem to me to be good enough characters for generic segregation."

The males may be separated from the females by the usual thickened protarsi; their smaller size and the narrower, more rounded apex of the prosternal process. The metathoracic wings of the male are almost entirely reduced, being doubtfully represented by an imbeded bristle like sclerite (Fig. 7). In the female they are represented by a scale like appendage, bearing a number of short setae on the lower half.

KEY TO THE GENERA OF HALIPLIDAE

1 Pronotum with sides of basal two-thirds nearly parallel, sometimes slightly sinuate, anterior margins strongly rounded, base with two longitudinal striae extending forward for more than half the length of the pronotum; epipleura broadly extending almost to the tip of the elytra, which are never truncate; metasternum reaching the epipleura; last abdominal segment usually acuminatly produced with a median longitudinal groove; form elongate; poor swimmers, usually found creeping along the bottoms of running streams, occasionally in lakes....*Brychius*

– Pronotum with sides widest at base and convergent anteriorly, with or without basal striae; epipleura evenly narrowed, usually ending near the base of the last ventral segment, never reaching the apex; episternum completely separating the metasternum from the epipleura; last abdominal segment without longitudinal groove; free swimming, usually found in still or slow-moving water.....2

2. Ultimate segment of palpi as large as penultimate labrum and clypeus small, width less than half the greatest diameter of the eyes; hind coxal plates margined, large, only the last sternite completely exposed; elytra with fine sutural striae; form broad and convex; general distribution in the warmer parts of the world.....*Peltodytes*

– Ultimate segment of palpi much smaller than penultimate; hind coxal plates not margined; last three sternites exposed; labrum broad, width more than half the diameter of the eyes, emarginate anteriorly; elytra without fine sutural stria.....3

3. Prosternum evenly rounded from side to side, process raised above base, narrowly constricted between coxae, apex roundly

truncate; tip of last abdominal sternite very closely and strongly punctate; wings reduced; suture between metasternum and antecoxal piece obliterated; size small (1.5–2.5 mm.); spindle-shaped; humpbacked. Known only from central California coastal region ..... *Apteraliplus*

– Medial portion of the prosternum and prosternal process forming a plateau-like elevation which is at least in part angularly separated from the lateral extensions of the prosternum, apex of posterior process squarely truncate; suture between the metasternum and antecoxal piece not obliterated; size large to small; general distribution in the cooler parts of the world. ..... *Haliplus*

NOMENCLATURE

BY T. D. A. COCKERELL

Citrus Experiment Station, Riverside, California

Nomenclature is not to be despised. It is a part of language, it is a means whereby we record and arrange our ideas. In bygone times, the human mind was aware of only a very small part of its environment, but science has enlarged our vision enormously, so that what we, collectively, know, can only be known in small part by any one individual. Most of our knowledge would be lost, were it not recorded in language, by means of names, by nomenclature.

There is one limitation to any system of rules, imposed by the methods of science. No committee or group may make a rule which asserts that which is false. Thus, it was recently shown that a certain author had proposed a generic name, without indicating any species. His specimens are preserved, and we now know whot he had. Later on another author described a species under what was presumed to be the same generic name, using, however, a different spelling. This species is not congeneric with that of the first author. Now it is alleged that the species of the second author must be the type of the genus of the first author, although the latter never saw it and actually had a different genus. This is manifestly absurd, and the way out of the difficulty is to ignore the name proposed by the first author, since he included no named species, and take up the name of the second author, with its type described by him.

More difficult is the problem of the generic name proposed